# GLIDE SLOPE EQUIP BUILDING
# RUNWAY 12
# SANTA MARIA AIRPORT

## ***GENERAL SPECIFICATIONS***

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## *GENERAL SPECIFICATIONS*

## PART 1 GENERAL

### 1.1 STATEMENT OF WORK

This specification, together with the referenced specifications, standards, and drawings, cover the requirements for the work associated with the design, fabrication, and delivery of the equipment building for the runway 12 Glide Slope at the Santa Maria Airport in Santa Maria, CA.

Work includes (but is not limited to):

- Design and Fabrication of an outdoor metal equipment building per the requirements listed below.
- Delivery of the buildings to the site and off-loading the building at the site (show a separate cost breakdown for shipping).

Note: All fabrication, equipment installation, and initial testing shall be done indoors at the contractor's shop. The contractor shall allow open access to the FAA while fabrication and equipment installation is taking place.

The contractor is required to furnish all labor, materials (except Government furnished), services, equipment, insurance, bonds, security notifications, licenses, permits, and fees in accordance with applicable federal, state and local regulatory requirements to complete the specified work. Any miscellaneous labor, equipment and/or materials not specifically detailed or specified, but required to complete the project, shall be provided as an integral part of the work.

**THIS IS A DESIGN/BUILD PROJECT. THE SALIENT FEATURES AND MINIMUM REQUIREMENTS ARE LISTED BELOW. THE ATTACHED DRAWINGS ARE PROVIDED TO GIVE THE CONTRACTOR A CONCEPTUAL IDEA OF A TYPICAL GLIDE SLOPE EQUIPMENT BUILDING. THE CONTRACTOR IS ENCOURAGED TO PROVIDE A NEW AND UNIQUE PROPOSAL THAT WOULD BEST BENEFIT THE FAA.**

#### 1.1.1 Design and Fabrication - Salient Features and Minimum Requirements

Building shall be steel, factory assembled, self-contained, and portable.
All necessary material not otherwise indicated to be Government furnished, shall be provided by the shelter manufacturer.

All work shall be in compliance with FAA Specification FAA-C-1217f, FAA Standard FAA-STD-019e, and the National Electric Code.

Structural:

- Dimensions: 12’ wide x 16’ long (exterior dimensions) x 9’ high (interior dimension)
- Loadings: 250 psf floor, 85 psf roof (live load), 125 mph sustained wind.
- Walls: Exterior walls shall be 12-gauge paint quality steel. Interior walls shall accommodated 400 lbs. Per linear ft and be finished with ¾” painted plywood. Ceiling shall be finished with ½” painted plywood.
- Insulation: LTTR* R-Value 25.0 for Roof; LTTR* R-Value 18.5 for walls and floor. * Long Term Thermal Resistance values provide a 15 year time-weighted average in accordance with CAN/ULC-S770.
- Roof: Roof slope shall be ¼” per foot and waterproofed as approved. A 6 inch high by 2 inch deep “drip edge” shall be installed around the upper perimeter of the building, as approved.
- Floor beams shall be hot dipped galvanized.
- The building shall be designed and fabricated to prevent the entry of rain, snow, and other moisture. The building shall also be impervious to rodents. Welded threaded couplings (1/2 length) shall be used at exterior entry points.
- Approximate total weight of finished building (with equip) = 15,000 lbs.

Color and Paint:

- Exterior: 3 mil epoxy primer and 15 mil electromeric liquid coating. Paint shall have a non-reflective sheen (flat) as approved. *Aviation Orange and White* (flat), as approved.
- Interior Walls: Navajo White, such as Benjamin Moore #947 , with an eggshell sheen and light texture finish, as approved. Interior primer as approved.
- Interior side of external door and interior door trim: ANSI 70 Gray, as approved.

Electrical Panel & Disconnect:

Provide and install a Main Distribution Panel (Square D # NQOD42M150CU with a 150A main breaker and bolt-on breakers as required) and a 200A Double Throw Safety Switch (such as Square D # 82354) with an approved 100A exterior receptacle/enclosure.

Surge Protection:

Provide and install Surge Protection for the main service disconnect and main distribution panel.

- Surge arrestor for the main service disconnect: such as Ravoss 120-2S-M3-3-O6-A-H.
- Surge arrestor for the main distribution panel: such as Ravoss 120-2S-M3-3-O6-A-H.

HVAC:

Provide and install two each, self contained heat/air units with 2 ton air conditioning, 5 kW heating and integrated thermostat. Units shall have a scroll compressor. Identify each unit as “HVAC #1” and “HVAC #2”.

Grounding:
Run a grounding electrode conductor from the service disconnect to outside of the building, as approved. Leave at least 20' of slack (to be connected to the shelter counterpoise by the field contractor).

Provide and install a single "MAIN" ground plate, as approved. Supply #4/0 XHHW cables with two stud hole type compression lugs on the plate end of the cables, long enough to extend 20 ft out of the building at two locations. One exit location is near the ground plate and the other exit location is on the opposite side of the building. Run the #4/0 interior section from the ground plate to the opposite side of the building in 1 ½" PVC conduit. Connections to the ground plate shall be made with appropriate size lugs, stainless steel bolts, flat washers, disc spring washers, and nuts (do not install washer between bonded members). Additionally, provide and install a 2.5" x 10' sch 80 pvc section with LB on the outside of the building as approved – two places. The exterior vertical pvc section shall be attached to the building at three ft max spacing as approved.

Provide and install ground lugs (to accommodate #4/0) on shelter skids at all four corners.

Lighting:
Interior fluorescent lighting shall be mounted with a 1 5/8" offset from the ceiling and have wire guard diffusers, as approved.
Additional emergency lighting shall be provided (90 minute backup).
A photo electrically controlled exterior high-pressure sodium light (with an override switch labeled "photocell on/off") shall be installed at the exterior door as approved.

Outlets, Receptacles, switches, jct box's:
Provide and install all necessary outlets, receptacles, switches, junction boxes, and terminal boxes as required. Use clamp backs to provide space between the conduits and the mounting surfaces (walls and ceilings). Provide an exterior GFI outlet w/ weatherproof lockable enclosure as approved.

Door:
Exterior door shall be steel, weather tight, with a lever type passage handle and dead bolt (w/ Best construction core), as approved.
Provide hydraulic door opener and door stop (such as Grainger #5U618), as approved.
Provide a door canopy (with sealed drip edge), as approved.

Miscellaneous Items:
* Provide and install a fire extinguisher (such as Grainger #4T889).
* Provide and install a ceiling retractable power cord reel (such as Grainger #1A136).
* Provide heavy duty storage cabinet, such as Grainger #5JL40.
* Provide and install a 60"w x 30"d Work Bench:
    - 3 Drawer/1 Panel Leg, with Butcher Block Maple; such as Grainger #7D079.

- Electronic Riser; such as Grainger #5W674.
- Back & End Stops; such as Grainger #5W676.
- Electronic Riser Wiring Kit; such as Grainger #4TW73.
- Chair for Work Desk, as approved.

* Provide step stool, such as Grainger #5M656.
* Provide 12/24 hour wall clock, as approved.
* Waste Basket (such as Grainger #5M743), Broom (such as Grainger #3BE88), and Dust Pan (such as Grainger #5W639).
* Bottle (32 oz) each of Commercial Grade window and grease cleaner, such as Windex® and 409®.
* "Rags in a Box" (180.5 sq ft).

Stairs:
Provide steel grate stairs, as approved. Stairs shall be 4' wide with a 4' deep top platform. The individual stair treads shall be 12" deep and have a 7.25" rise. Total height of the stairs shall be 21.75".

Identification:
Provide identification for all panel boards, safety switches, enclosures, junction box's, etc., per FAA-C-1217f, and as approved. Unless otherwise indicated, name plates shall be black with white 3/8" high engraved letters.
Provide an identification sign on the building as approved (ie, FAA MALSR). In addition, provide and attach FAA Warning Sign (available from Bennett's Decal & Label, Okla City, OK, 405-528-5671, P/N: ATCTWARNINGMETAL), as approved.

Mounting Plates:
Provide six each mounting plates (to attach the shelter skid to the foundation), as approved.

### 1.1.2 Delivery and off-loading the Building

The contractor shall be totally responsible for the delivery of the building to the site at the Santa Maria Airport. This includes the contractor's responsibility for meeting and complying with the Airport's security and access requirements.
The floor of the delivered buildings shall be covered and protected, as approved. Buildings shall be tarped or otherwise protected during transport. Loose material inside the building (desk, chairs, cabinets, etc), shall be secured to prevent movement during shipping. Any dirt or debris that gets accumulated on the building during delivery shall be cleaned off.
Once at the site, the contractor shall be responsible for off-loading the building. The building foundation will be installed by others.
Show a separate cost breakdown for shipping.

## 1.2 REFERENCES

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|---|---|
| FAA-C-1217f | Electrical Work, Interior |
| FAA-STD-019e | Lightning Protection, Grounding, Bonding, and Shielding. |
| NEC | National Electric Code |

## 1.3 DRAWINGS

Drawings will be provided to show a general configuration and minimum requirements. The contractor is encouraged to show improvements and enhancements in the submitted proposal.

| | |
|---|---|
| SMX-B-GS12-ZfabA | Building Interior Layout |
| SMX-B-GS12-ZfabB | Building Misc Details - 1 |
| SMX-B-GS12-ZfabC | Building Misc Details - 2 |
| SMX-B-GS12-ZfabD | Electrical System Details (partial) |

## 1.4 SUBMITTALS

### 1.4.1 Building

Building drawings shall be provided in hardcopy and electronically in AutoCAD version 2007 format. Text documents shall be provided in hardcopy and electronically in Word 2003 format.

### 1.4.2 Material

The contractor shall submit catalog data, cut-sheets, samples, and any other required information to the FAA Project Engineer for approval of the following:

- Contractor furnished electrical components including panels, disconnects, enclosures, cables, connectors, and conduits.
- HVAC components.
- Contractor furnished hardware.
- Labels.
- Additional items deemed necessary by the Project Engineer.

### 1.4.3 Testing

The contractor shall complete (at his own expense) all testing as required by these specifications. The results shall be submitted to the FAA Project Engineer. Required testing includes, but is not limited to, the following:

- Ring out and continuity verification to insure proper termination.
- Cables (see FAA-C-1217f, 5.3.2)
- Load balancing (see FAA-C-1217f, 5.3.3)
- Insulation resistance test (see FAA-C-1217f, 5.3.4)

- Neutral isolation test (see FAA-C-1217f, 5.3.5)

## PART 2 PRODUCTS

Reference herein or in the drawings to any specific commercial product, process, or service, any trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the Federal Aviation Administration. The contractor may submit a request for substitution of a product, process, or service specifically called out. Such request shall be through the submittal process.

### 2.1 GOVERNMENT FURNISHED MATERIAL

N/A

#### 2.1.1 Inventory and Inspection of GFM

N/A

### 2.2 CONTRACTOR FURNISHED MATERIAL

The contractor shall furnish all material that is required and not otherwise indicated to be Government furnished. Materials furnished by the contractor shall be new, the standard products of manufacturers regularly engaged in the production of such materials, and of the manufacturer's latest designs that comply with the specification requirements.

In addition to the items listed in section 1.1.1 above, the contractor furnished material includes, but is not limited to:

- 100A Heavy Duty Safety Switch w/ 70A fuses.
- Lights (interior, exterior, and emergency), outlets, electrical fittings, conduits, as required.
- Labels and Identification signs.
- Power, control, and grounding cable, as required.

## PART 3 EXECUTION

### 3.1 FABRICATION SCHEDULE

All work shall be completed within 45 calendar days of the start date.

### 3.2 AS-BUILT DRAWINGS

Provide As-built drawings in AutoCAD version 2002 format.

### 3.3 INSTALLATION AND WORKMANSHIP

All work shall be performed according to the intent of the contract, and normal and accepted industry and Government standards.

The contractor shall be regularly engaged in the fabrication of shelters with existing plant facilities equipped for year around shelter manufacturing.

The contractor shall be capable and experienced in transporting shelters to active airports and remote sites using specialized trucks, trailers and cranes.

All work shall be accomplished by skilled workers regularly engaged in this type of work. Where required by local regulations, the workers shall be properly licensed. Electrical terminations and splices shall be done by a qualified electrician.

The contractor shall give constant attention to the work to facilitate the progress thereof, and shall cooperate with the FAA Project Engineer in every way possible. The contractor shall have a competent superintendent on the work site at all times who is fully capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the Project Engineer.

## 3.4 CONTRACTOR'S ACCEPTANCE INSPECTION

Prior to shipping the building to the site, the contractor shall participate in a Contractor's Acceptance Inspection (CAI) with the FAA Project Engineer. Items found to be deficient shall be corrected immediately or as directed.

## 3.5 GUARANTEE

All work shall be guaranteed by the contractor against defects resulting from the use of inferior and/or defective materials, equipment, or workmanship for one year from the date of final completion of the project.

END OF SECTION